

MR2349-941

IN THE TITLE:

Page 1; line 1, please delete the terms "OPTIMAL STIFFNESS MATCHING STRUCTURE OF PLANAR BEARING AND AXIS OF ROTARY MECHANISM" and insert therefor the terms --HARDNESS MATCHED ROTARY MECHANISM--.

IN THE CLAIMS:

Please cancel Claims 1-3 without prejudice.

Please insert the following Claims:

4. A hardness matched rotary mechanism comprising:

a sliding bearing having an inner surface portion defining an axially extending bore; and,

an axially extended shaft extending coaxially into said bore of said sliding bearing, said shaft having an outer surface portion slidably engaging said inner surface portion of said sliding bearing;

one of said inner and outer surface portions being formed of a metal alloy material having a substantial hardness value approximately within the range of HRC 50 - HRC 60, the other of said inner and outer surface portions being formed of a ceramic material having a substantial hardness value of approximately HRC 90.

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5. The hardness matched rotary mechanism as recited in Claim 4 wherein said inner portion of said sliding bearing is formed of said metal alloy material, and said outer portion of said shaft is formed of said ceramic material.
6. The hardness matched rotary mechanism as recited in Claim 4 wherein said ceramic material is selected from the group consisting of: an oxide, a carbide, and a nitride.
7. The hardness matched rotary mechanism as recited in Claim 4 wherein said metal alloy material is formed by a mixture of a plurality of constituent metals.
8. The hardness matched rotary mechanism as recited in Claim 4 wherein said metal alloy material is formed by coating then hardening upon a substrate surface a plurality of constituent metals.